

REMARKS

Claims 10-30 are currently pending in this application. Claims 10-18, 20-23, 25-28 and 30 are rejected under 35 USC 103(a) as being unpatentable over Greiche et al. (U.S. 4,859,459). Applicants respectfully traverse.

One of the assumptions that the Examiner appears to make as a basis for using Greiche et al. as a reference is that an emulsion is the same as a "two-phase" or "multi-phase" system. Applicants respectfully point out that an "emulsion" does not consist of "two layers" as the Examiner appears to be asserting on page 2, line 15 of the Office Action. An emulsion is a "stable mixture of two or more immiscible liquids held **in suspension** (emphasis added)..." *Hawley's Condensed Chemical Dictionary, 13th Edition, 1997, p. 443.* An emulsion comprises a single phase. Applicants distinguish the two or multi-phase systems of their invention from emulsions at page 3, lines 13-29 of the specification, as filed. Specifically, they state, "No two-phase systems **in the context of the present invention** (emphasis added) are systems in which there is only one continuous phase such as, for example, pure oil-in-water or water-in-oil emulsions." Applicants' invention may contain emulsions, but they make up only a single phase within a multi-phase system. "Two-phase or multi-phase systems used in accordance with the invention are systems in which at least two **separate** (emphasis added) continuous phases are present." Greiche et al. do not disclose or even suggest multi-phase systems. Their hair shaping composition is in

the form of an "aqueous solution or an emulsion" (please note col. 4, lines 57-58). The teaching of Greiche et al. with respect to this element would not have lead one skilled in the art to multi-phase hair curling formulations, such as those discovered by Applicants.

The Examiner correctly points out that Greiche et al. do not disclose a composition containing a C4-10 alcohol having limited miscibility with water. This component is a key element of Applicants' invention. To reinforce the criticality of this feature, Applicants present the attached Declaration of Dr. Mueller which shows that compositions containing C4-10 alcohols are more effective at producing waves and curls than do compounds that contain alcohols having other than a carbon content of 4-10.

In summary, the tests conducted by Dr. Mueller show that the presence of a C8 alcohol (2-ethyl-hexane-1,3-diol) provides superior curling characteristics when compared to curling formulations containing a C3 alcohol (propane-1,2-diol). Further, these tests show that a two-phase system containing 2-ethyl-hexane-1,3-diol, which was shaken just before testing to form a homogenous blend, provides better curling results than does a single phase system containing the same alcohol (E3 vs. V5).

The Examiner asserts that since the reference discloses glycerine it would have been obvious to have used C4 or higher alcohols within the context of the present invention. Applicants respectfully point out that glycerine is 1,2,3-trihydroxy propane, not 1,2-dihydroxy

propane. This distinction is important, because glycerine is in fact different from Applicants' C4-10 alcohols which are required to have limited miscibility with water in order to produce the desired outcome within the context of the present invention. Glycerine is soluble in water and thus does not have "limited miscibility with water".

It is respectfully submitted that, for all the foregoing reasons, the subject matter of claims 10-18, 20-23, 25-28 and 30 could not have been obvious to one of skill in the art based on the disclosure and teachings of Greiche et al. In addition, the comparative tests conducted by the inventor show the surprising nature of the present invention.

Claims 19, 24 and 29 are rejected under 35 USC 103(a) as being unpatentable over Greiche et al. in view of Cannell et al. (U.S. 5,681,554). It is respectfully submitted that the secondary reference fails to make up for the deficiencies of the primary reference. While Cannell et al. disclose compositions containing protein hydrolyzates, there is no suggestion or incentive to add these hydrolyzates, which are used to protect hair from damage from various sources, to the formulations of Greiche et al. to yield the multi-phase hair curling formulations discovered by Applicants. The withdrawal of this rejection is therefore respectfully requested.

CONCLUSION

In view of the amendments and remarks above, Applicants ask for reconsideration and allowance of all